

A3 4/5. A narrow-band excimer laser apparatus according to claim 3, wherein a blaze angle of said reflection type diffraction grating is not less than 76° .

REMARKS

Reconsideration is respectfully requested.

Claims 1-4 are pending in this application. Claims 1, 2 and 4 are amended herein. New claim 5 is added.

Claims 1-4 rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While the claims were believed in compliance with section 112 as filed, amendments have been made above and it is respectfully requested that the rejection be withdrawn in view of the amendments.

Claims 1 and 2 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Stamm et al (U.S. 2002/00759333 A1, also called publication 1 herein). Claims 3/1 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Stamm et al (US 2002/0101890 A1, also called publication 2 herein) or Stamm et al (publication 1) as applied above. Applicant respectfully traverses this rejection.

Publication 1 and publication 2 (US2002/0075933A1) say nothing about "diffracted wavefront distortion, as measured by He-Ne laser light, within a laser light irradiation area of said reflection type diffraction grating in Littrow mounting is not more than $\lambda/10$.

Regarding claim 2, publication 1 teaches nothing about "light blocking means is positioned between said reflection type diffraction grating and said slit to prevent laser light from being applied to a portion of a laser irradiation area of said reflection type diffraction grating, at which portion diffracted wavefront distortion, as measured by He Ne laser light, within a laser light irradiation area of said reflection type diffraction grating in Littrow mounting is not more than $\lambda/10$ ".

Accordingly, neither publication 1 nor publication 2 can anticipate the claims, as the claims recite things not taught by the documents.

Claim 3/1 (claim 3) is a dependent claim of claim 1 or 2. As mentioned above, the inventions of claims 1 and 2 are not disclosed in publications 1 and 2 at all, nor are they even suggested. Accordingly, the documents cannot, whether considered alone, or when combined, support a rejection under section 103.

The number of grooves in claim 3 is obtained when the diffracted wavefront distortion is not greater than $1/10$. The invention wherein the number of grooves is limited at the time of such a reduced diffracted wavefront distortion is not disclosed in publications 1 or 2 at all.

The number of grooves is usually a parameter having relations to the resolving power of a grating. While limiting the number of grooves in view of resolving power might have been obvious to those skilled in the laser art, in contrast, in claim 3, wherein the object to reduce the diffracted wavefront distortion is achieved by previously unheard of means of limiting

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the number of grooves, would have not been obvious to those skilled in the art.

Claim 3/2 is not rejected over any art, and is therefore submitted to be allowable.

Claim 4 is not rejected over any art, and is therefore submitted to be allowable. Claim 4 has been amended to depend on claims 1 and 2 only. New claim 5 is added to depend on claim 3, representing claim 4/3 before amendment. This new claim is also submitted to be allowable.

In view of the above noted amendments and remarks, applicant respectfully submits that claims 1-5 are neither anticipated by nor obvious in view of the document relied on by the Examiner.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. The Examiner is asked to contact applicant's attorney at 503-224-0115 if there are any questions.

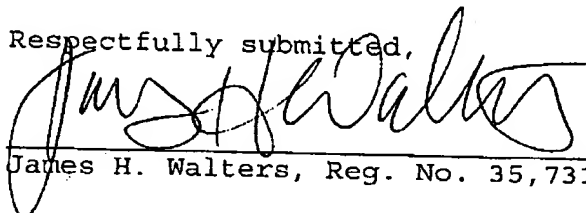


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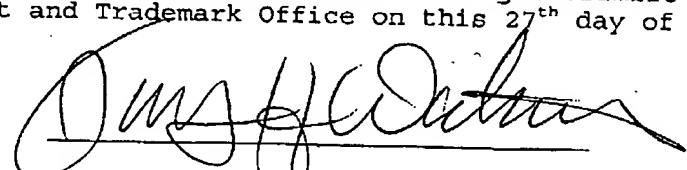
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Page 5 — AMENDMENT (U.S. Patent Appln. S.N. 09/773,246) [A389RTOA112702/NOV 2002]

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

1. (Amended) [A narrow-band excimer laser apparatus comprising a bandwidth-narrowing optical system,] An excimer laser apparatus in which a laser chamber containing therein main discharge electrodes for excitation is interposed between an output mirror and a bandwidth-narrowing optical system, wherein:
said bandwidth-narrowing optical system [including] comprises a Littrow mounting reflection type diffraction grating, [and a combination of] a beam diameter-enlarging optical system [and a slit placed] positioned on an entrance side of said reflection type diffraction grating, and a slit located at an entrance side of said-beam diameter-enlarging optical system, and
[wherein] diffracted wavefront distortion, [(a measured value for] as measured by He-Ne laser light[]], within a laser light irradiation area of said reflection type diffraction grating in Littrow mounting is not more than $\lambda/10$, [where] wherein λ is a wavelength of the He-Ne laser light.

2. (Amended) [A narrow-band excimer laser apparatus comprising a bandwidth-narrowing optical system,] An excimer laser apparatus in which a laser chamber containing therein main discharge electrodes for excitation is interposed between an output mirror and a bandwidth-narrowing optical system, wherein:
said bandwidth-narrowing optical system [including] comprises a Littrow mounting reflection type diffraction grating,

[and a combination of] a beam diameter-enlarging optical system
[and a slit placed] positioned on an entrance side of said
reflection type diffraction grating, and a slit located on an
entrance side of said beam diameter-enlarging optical system, and

[wherein] light-blocking means is [placed] positioned
between said reflection type diffraction grating and said slit to
prevent laser light from being applied to a portion of a laser
irradiation area of said reflection type diffraction grating, at
which diffracted wavefront distortion, [(a measured value for] as
measured by He-Ne laser light[]], within a laser light
irradiation area of said reflection type diffraction grating in
Littrow mounting is not more than $\lambda/10$, where λ is a measuring
wavelength.

4. (Amended) A narrow-band excimer laser apparatus
according to [any one of claims 1 to 3] claim 1 or 2, wherein a
blaze angle of said reflection type diffraction grating is not
less than 76° .

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